

Notice of Allowability

Application No.

09/316,518

Examiner

Anh-Vu H Ly

Applicant(s)

STANWOOD ET AL.

Art Unit

2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed October 01, 2004.
2. ☒ The allowed claim(s) is/are 24-47, 70-71, and 78-87 renumbered as 1-36.
3. ☒ The drawings filed on 11 January 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Richard E. Campbell on January 05, 2005.

The application has been amended as follows:

In The Claims

Claim 42, in line 12, replace "determining" with - -predicting- - and in line 15, replace "calculating" with - -setting- -.

Claim 45, in line 2, replace "determining" with - -predicting- - and replace "calculating" with - -setting- -.

Claims 48-51, 73, and 88-96 are cancelled.

Allowable Subject Matter

Claims 24-47, 70-71, and 78-87 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art does not teach or fairly suggest predicting uplink and downlink bandwidth requirements using the monitored and determined uplink and downlink bandwidth utilization parameters over a period of time and setting the uplink/downlink ratio based upon the predicted bandwidth requirements, as specified in independent claims 24 and 42.

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The prior art does not teach or fairly suggest setting up the uplink/downlink ratio of a subsequent frame based upon the updated bandwidth utilization parameters which were monitored over a period of time, as specified in independent claim 70.

The prior art does not teach or fairly suggest updating the initial set of bandwidth utilization parameters with an actual set of bandwidth utilization parameters reflective of an actual bandwidth utilization of the uplink and downlink time slots, wherein the actual set of bandwidth parameters are calculated as follows: $U_{\text{CM}}^{(n)} = \frac{L}{tA} (U - \alpha^{n-1} \cdot U_0) + (1 - \alpha) \cdot U_{\text{CM}}^{(n-1)}$ Wherein $\alpha < 1$, $M > 1$, $D_{\text{CM}}^{(n)} = \frac{L}{tA} (D - \alpha^{n-1} \cdot D_0) + (1 - \alpha) \cdot D_{\text{CM}}^{(n-1)}$ and wherein $\alpha < 1$, $M = 1$, $0(1) \leq D_{\text{CM}}^{(n)} \leq L/M$ rise uplink and downlink filtered moments, and wherein n , n_{comp} respectively, of order M at an instant n , and wherein U_n , D_n respectively comprise an uplink and downlink accumulated bandwidth requirement influenced by the actual bandwidth utilization, as specified in independent claim 78.

The prior art does not teach or fairly suggest (a) summing all of the uplink bandwidth requirements as follows: for each (k) k integer value of k between 1 and M , $S_u = \sum U_k$; (b) summing all of the downlink bandwidth requirements as follows: for each (k) k integer value of k between 1 and M , $S_d = \sum D_k$; (c) calculating an estimated bandwidth allocation scheme as follows: $u_{\text{vp}}(k) = \text{INT} \frac{Z - k \cdot d}{N - R_d} = N - R_d$; $d(\hat{\alpha}) = \frac{1}{N} (S_d + S_u)$ (d) comparing the estimated bandwidth allocation scheme calculated in step (c) with the allocation scheme currently used, wherein the allocation scheme currently used is defined as N_d , N_u ; and (e) replacing N_d and N_u with the estimated bandwidth allocation scheme calculated in step (c) if $jNa - ka \leq 1 - 7z$, wherein y comprises a pre-determined threshold, as specified in independent claim 82.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

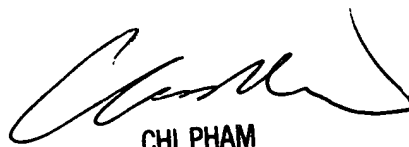
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H Ly whose telephone number is 571-272-3175. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

avl


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800 1/6/05